

North Carolina  
Department of Environment and Natural Resources

Division of Waste Management

Michael F. Easley, Governor  
William G. Ross Jr., Secretary  
Dexter R. Matthews, Director



July 27, 2006

NAVFAC Atlantic  
Attn: Daniel R. Hood  
Code: OPCEV  
NC/Caribbean IPT, EV Business Line  
6506 Hampton Blvd  
Norfolk, VA 23508-1273

RE: Comments on the Draft Pilot Study Report, Operable Unit (OU) #20, Site 86  
Air and Ozone Sparging using a Directionally Drilled Horizontal Well  
MCB Camp Lejeune, NC  
CERCLA Site NC6170022580  
Jacksonville, Onslow County, North Carolina

Dear Mr. Hood:

The NC Superfund Section has received and reviewed the Draft Pilot Study Report for Air Sparging with Ozone addition at OU#20, Site 86 at the Camp Lejeune, MCB Superfund Site located in Jacksonville, NC. The following comments including the Wilmington Regional Office Water Quality Section comments (see attachment) are provided for the Partnering Teams consideration.

**General Comments:**

So far it looks like a successful remedy for the Site.

**Specific Comments:**

1. Please include more details about the groundwater quality results in the Executive Summary, such as those included in the VOC summary on page 3-7. The report should also clarify that monitoring well MW-36IWC at the middle section of the horizontal sparge well never reached the NCAC 2L Groundwater Quality Standards (NCGWQS) for TCE. Vinyl Chloride also rebounded several times and remains above the NCGWQS as of May 2006 in this well. This should also be included in the VOC Summary Section.
2. Section 3.4 discusses the Soil Vapor Analytical Results. Since TCE concentrations in two shallow soil gas samples exceeded the EPA's secondary screening criteria as described in this section of the report we should do indoor air sampling for TCE and the degradation products in building AS312 as an added precaution.

1646 Mail Service Center, Raleigh, North Carolina 27699-1646  
Phone: 919-508-8400 \ FAX: 919-715-4061 \ Internet: [www.enr.state.nc.us](http://www.enr.state.nc.us)

Mr. Daniel Hood

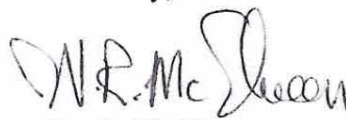
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3. The second tick mark of the Conclusions Section 4.1 states that within a year [of the start of air sparging], the NCGWQS for TCE had been achieved in 13 of the 16 monitoring wells sampled as part of the pilot study. This is true, however, three months later (May 2006) due to rebound and the fact that monitoring well MW-36IWC never attained the NCGWQS for TCE there were actually only 12 of the 16 wells that still remain below the NCGWQS for TCE.
4. In the Lessons Learned Section on page 4-2, we should also discuss the extreme and extensive groundwater elevation changes that occurred in the area during the air/ozone sparging process. The shallow (not the Castle Hayne) groundwater flow direction changed significantly in the area of Site 86 extending all the way out to the 303/318 Solid Waste Management Unit (SWMU) plume. This issue (groundwater elevation changes) is briefly noted in the site hydrology section on pages 1-2 and 1-3 and should also be discussed in the water level measurements section. How soon after shut down of the sparging system did the groundwater elevations return to normal?

If you have any questions or comments, please contact me, at (919) 508 8467 or email [randy.mcelveen@ncmail.net](mailto:randy.mcelveen@ncmail.net)

Sincerely,



Randy McElveen  
Environmental Engineer  
NC Superfund Section

Attachment

Cc: Dave Lown, NC Superfund Section  
Bob Lowder, EMD/IR  
Gena Townsend, USEPA



Michael F. Easley, Governor

William G. Ross Jr., Secretary  
North Carolina Department of Environment and Natural Resources


Alan W. Klimek, P.E. Director  
Division of Water Quality

July 14, 2006

Memorandum

TO: Randy McElveen, Superfund Section

THROUGH: Charlie Stehman

FROM: Ginny Henderson 

SUBJECT: Draft Pilot Study Report  
OU 20, Site 86, Tanks AS 419-421 at MCAS  
Camp Lejeune, Onslow County  
Incident No. 85251



Based on our review of the subject report provided by CH2M Hill and AGVIQ Environmental Services, on behalf of the Department of the Navy, Naval Facilities Engineering Command, Mid Atlantic Division; the Division of Water Quality, Aquifer Protection Section, Wilmington Regional Office (WiRO) has the following comments to offer:

- DWQ would recommend quarterly monitoring for three more quarters to continue tracking possible rebound issues.
- On page 3-4, paragraph 3, sentence 1, were should be inserted between samples and collected.
- On page 3-10, paragraph 3, the last sentence is missing punctuation.

If you have questions, please call me at (910) 796-7339.

cc: WiRO-APS Files

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*Naturally*